V. De M. ANSON.

Water-Wheels.

No. 157,265. Patented Dec. 1, 1874.

Fig. 1.

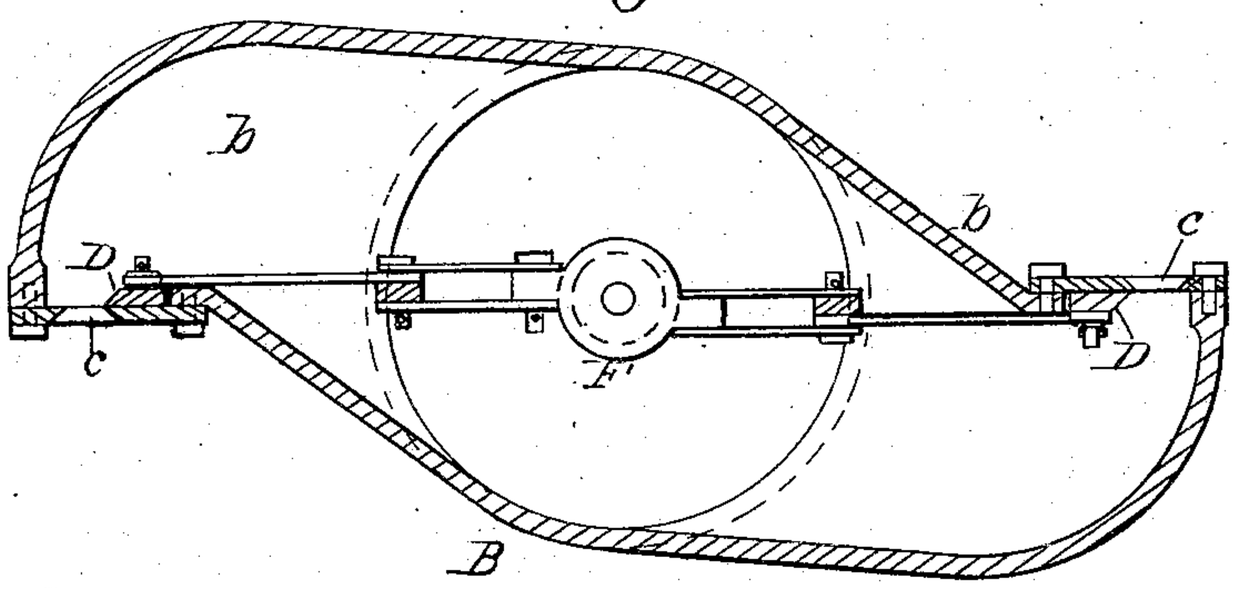
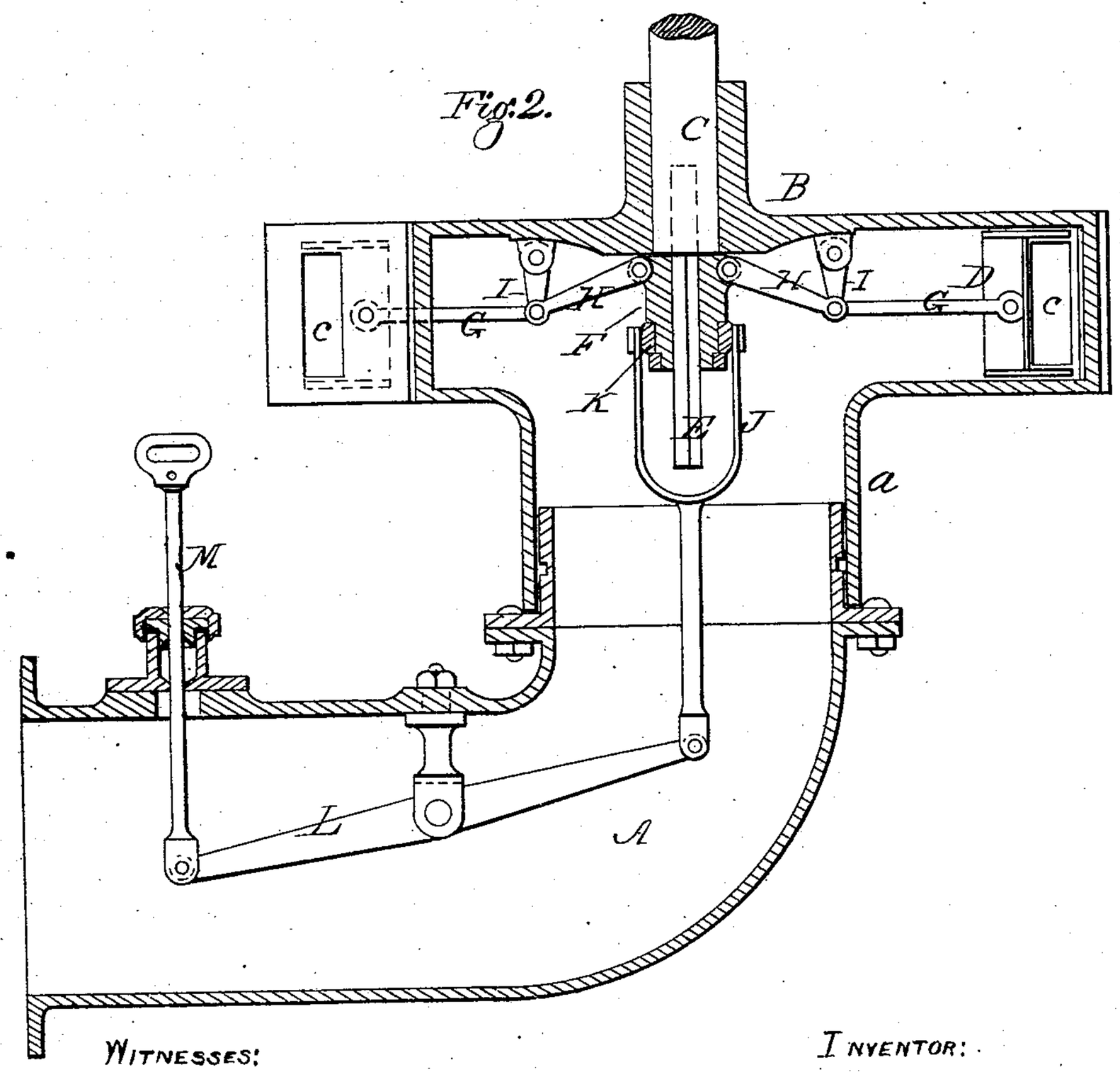


Fig. 2.



WITNESSES:

H. H. Dodge

Wm. E. Chaffee

INVENTOR:

Val De Mar, Anson.

By his attys.

Dodge & Son.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

VAL DE MAR ANSON, OF MILLBROOK, NEW YORK.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **157,265**, dated December 1, 1874; application filed July 20, 1874.

To all whom it may concern:

Be it known that I, VAL DE MAR ANSON, of Millbrook, in the county of Dutchess and State of New York, have invented certain Improvements in Water-Wheels, of which the following is a specification:

My invention relates to what are commonly known as Barker's mills or reaction-wheels; and consists in a novel arrangement of gates, to vary the size of the discharge-openings, and thereby vary the speed of the wheel.

Figure 1 is a horizontal section of my improved wheel, and Fig. 2 a central section of the same.

A represents the water-supply pipe, on the upper end of which the wheel is mounted. The wheel B consists of a central portion, *a*, having a neck or flange fitting down over the end of pipe A, and of two radial arms, *b*, extending outward on opposite sides of the part *a*, and each provided at the outer end with a side opening, *c*, as shown. The water entering the pipe A passes through the arms *b*, and escapes through the openings *c*, causing, by its reaction, a rotary movement of the wheel, as usual. The arms *b* have their sides in which the outlet-openings are made flat, as shown. The edges of the openings are beveled off on the outside, as shown in Fig. 1.

Inside of each arm *b*, against its flat rear face, I mount a sliding gate, D, by moving which the outlet-opening may be reduced in width to any required extent, or covered entirely. At the center of the wheel I secure a shaft or spindle, E, on which I mount a sliding hub, F, to opposite sides of which are pivoted two links, H, the outer ends of which latter are in turn connected, by links G, to the respective gates D, as shown in both figures. Each pair of links G H is held in position and prevented from folding up by means of a third link, I, one end of which is pivoted to the body of the wheel, while the other end is attached to the pivot which connects the levers G H, as is clearly shown in Fig. 2.

By sliding the hub F on its shaft or spindle E it is caused to operate the links G H and thereby move the gates, both of which are moved alike.

The hub F has mounted on its lower end a swivel, J, having a long arm, which is connected to one end of a lever, L, which is mounted in the pipe A, and provided at its opposite end with a rod, M, which extends out through a stuffing-box, and has its outer end provided with a handle, as shown in Fig. 2. By operating the rod M the hub is moved, and motion thereby communicated to the gates, which may be adjusted with great ease and accuracy. By means of the gates the wheel may be stopped, or its speed varied, with great nicety; and in case the supply of water diminishes the openings may be varied in size, so as to use the water with the greatest possible advantage and economy.

It is obvious that other arrangements may be used for operating the gates. The essential feature is the sliding gates, to vary the size of the outlet-openings.

Having described my invention, what I claim is—

1. In combination with the reaction-wheel having the arms *b*, with side openings *c*, the sliding gates D, as and for the purposes set forth.

2. In combination with the wheel B, having the sliding gates D, the spindle E, sliding hub F, and the links G H I, as shown.

3. In combination with the wheel B, gates D, spindle E, hub F, and links G H I, the swivel J, lever L, and rod M, as shown.

VAL DE MAR ANSON.

Witnesses:
D. H. COUCH,
BENJAMIN ANSON.